

What is claimed is:

*Sub A*  
1. A driving circuit for an organic electroluminescence  
(EL) device comprising:

5        a DC-DC converter provided inside one chip, for controlling an external voltage input depending on a timing control signal and providing a controlled DC voltage;

an interface unit provided inside the chip, for interface with parts outside the chip;

20        a memory provided inside the chip, for storing display information transmitted through the interface unit;

25        a data processor provided inside the chip, for providing a display data to a display panel of the EL display device using the display information stored in the memory and the controlled DC voltage output from the DC-DC converter;

30        a scan processor provided inside the chip, for outputting scan data to the display panel using the display information and the controlled DC voltage output from the DC-DC converter; and

35        a timing control unit provided inside the chip, for 20 providing the timing control signal to the DC-DC converter, the interface unit, the memory, the data processor, and the scan processor.

2. The driving circuit for an organic EL device as claimed  
in claim 1, further comprising a power peripheral unit provided  
outside the chip, for controlling input and output voltages of  
the DC-DC converter, preventing a backward current from occurring  
5 during the DC-DC conversion, and maintaining the input DC voltage  
for a predetermined time.

3. The driving circuit for an organic EL device as claimed  
in claim 2, wherein the power peripheral unit includes an  
inductor, a diode, and a resistor, which are hard to be installed  
inside the chip.

4. The driving circuit for an organic EL device as claimed  
in claim 3, wherein the power peripheral unit includes:

an input terminal providing an applying external voltage  
to the DC-DC converter;

an output terminal outputting the controlled DC voltage output from the DC-DC converter to the outside the chip;

20 a first capacitor connected with the input terminal in parallel to minimize fluctuation of the input voltage;

a second capacitor connected with the output terminal in parallel to minimize fluctuation of the controlled DC voltage;

an inductor connected in series between the input terminal and the output terminal, for maintaining the external voltage applied to the DC-DC converter for a predetermined time; and

5 a diode connected in series between the input terminal and the output terminal, for preventing a backward current from occurring.

5. The driving circuit for an organic EL device as claimed in claim 1, wherein the DC-DC converter includes:

a mode control unit outputting a voltage control signal in response to the timing control signal from the timing control unit;

an impedance generating unit outputting an impedance value changed depending on the voltage control signal output from the mode control unit;

a resistor connected with an output terminal of the DC-DC converter in parallel and with an output terminal of the impedance generating unit in series; and

20 a voltage control unit receiving a feedback value of the controlled DC voltage distributed by the impedance value output from the impedance generating unit and a value of the resistor, and then outputting a DC voltage controlled according to the feedback voltage.

6. The driving circuit for an organic EL device as claimed in claim 5, wherein the impedance generating unit and the resistor can be installed not inside the chip but outside the chip.

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7. A method for converting a voltage in a DC-DC converter having an output resistor, the method comprising the steps of:

generating a DC voltage;

generating a voltage control signal in response to a timing control signal;

generating an impedance value corresponding to the voltage control signal;

distributing the DC voltage by the resistor and the impedance value; and

generating a new DC voltage using the distributed voltage.

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